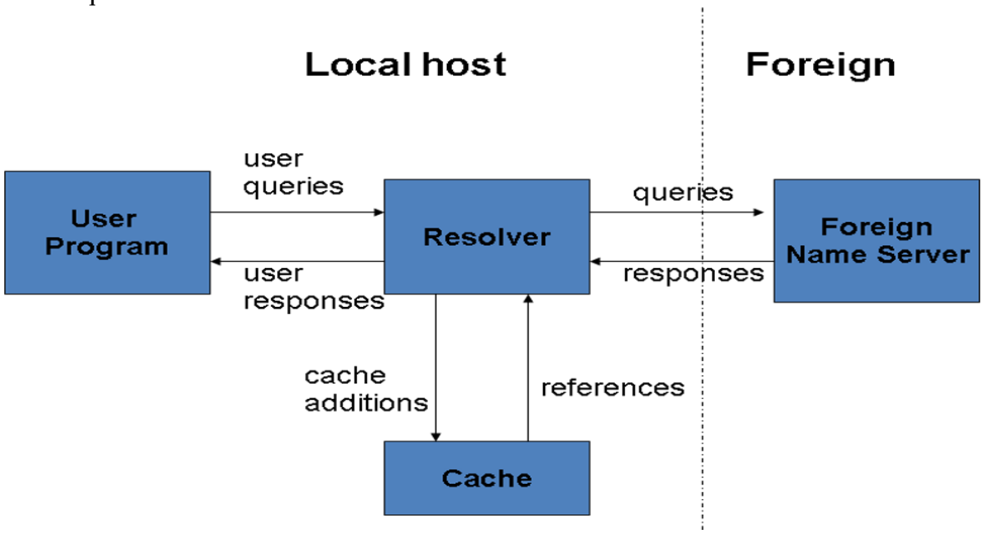
CpSc 360, Section 2, Fall 2008, Quiz #4

Name:_____ Clemson ID:_____

Question #1 (30 points):
Are the following statements **true** or **false**?

1. The domain name system is usually used to translate a host name into an IP address. (TRUE)
2. DNS databases are distributed across the entire Internet. (TRUE)
3. DNS uses TCP protocol for lookup to ensure correct IP address is obtained. (FALSE)
4. DNS server may return several IP addresses to the client calling gethostbyname(). (TRUE)
5. A client can request the DNS server to recursively look for the IP address of a domain name. (TRUE)
6. With nonblocking I/O is efficient in terms of CPU time consumption. (FALSE)
7. Calling function select() is one of the non-blocking I/O methods in Unix. (FALSE)
8. Message Transfer Agents use SMTP to exchange mail messages (TRUE)
9. POP protocol is used to transfer mail from a mail server to a user agent. (TRUE)
10. Binary data must be converted to an ASCII representation to send via email. (TRUE)

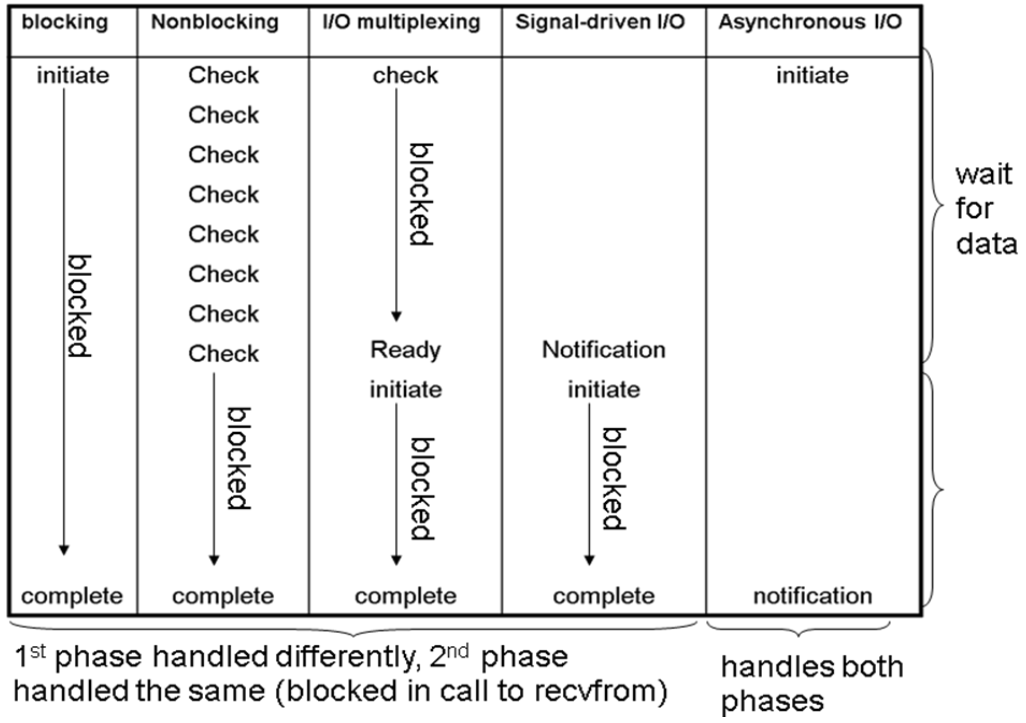
Question #2 (20 points):
Draw a diagram to describe the typical DNS configuration. Explain what happens in the network when a user requests for a domain name.



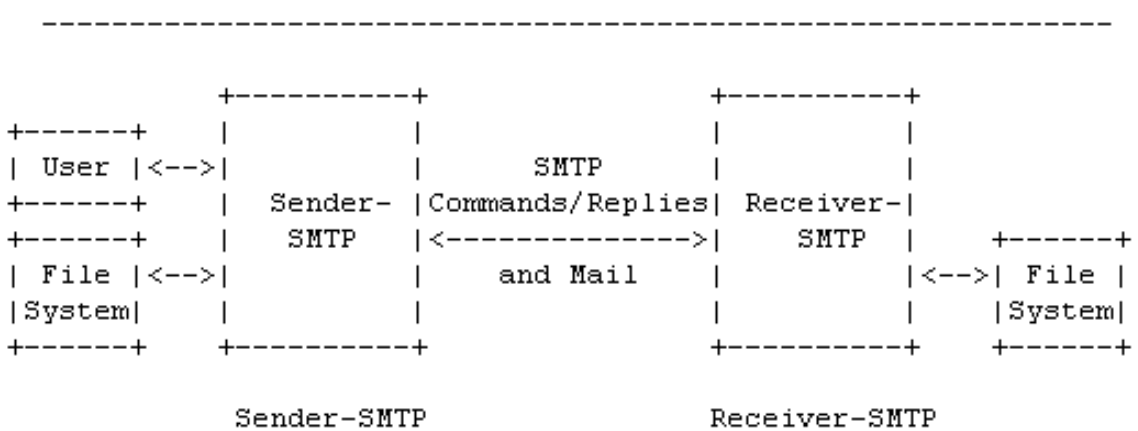
Question #3 (20 points):
Describe how to use select() in a program to handle I/O on a set of file descriptors .

1. Create fd_set
2. Clear the whole thing with FD_ZERO
3. Add each descriptor you want to watch using FD_SET.
4. Call select
5. When select returns, use FD_ISSET to see if I/O is possible on each descriptor.

Question #4 (20 points):
Draw a diagram to compare 5 different I/O models.



Question #5 (20 points):
Draw a diagram to demonstrate the SMTP model.



Model for SMTP Use

Figure 1